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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,896	05/29/2001	Matthew Levine	12293:35	5588

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EXAMINER

SORRELL, ERON J

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,896

Applicant(s)

LEVINE ET AL.

Examiner

Eron J Sorrell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: at line 29 of page 10 of the specification, reference is made to a "Figure 8," however there is no such figure in the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 4-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. (U.S. Publication No. 2004/0078490 hereinafter "Anderson").

4. Referring to claim 1, Anderson teaches a method of extending an IP address block map, comprising:

defining a set of upper bound blocks (see paragraph 50 on page 3);

using the set of upper bound blocks to partition a space of IP addresses into territories, wherein each territory represents a largest set of IP addresses to which a piece of mapping data may be extended (see paragraph 50 on page 3, wherein Anderson teaches associating geo-locations with address blocks);

defining a unanimity criterion that determines whether a set of mapping data are sufficiently in agreement to be reduced to a single piece of mapping data (see paragraph 143 bridging pages 8 and 9, wherein Anderson teaches a "divide-and-conquer" algorithm); and

partitioning the territory of each upper bound block into a largest possible sub-block in which the unanimity criterion is satisfied and extending the mapping data in each such sub-block to all of the territory of that sub-block (see paragraph 143 bridging pages 8 and 9).

5. Referring to claims 4 and 5, Anderson teaches the territory associated to an IP address block includes all of the IP addresses belonging to that block and that do not belong to any more-specific upper bound block that is a sub-block of the given IP address block (see paragraph 50 on page 3).

6. Referring to claims 6 and 7, Anderson teaches the unanimity criterion is that a set of mapping data is unanimous if all data values are in the set are equal, disregarding those values which belong to a set of one or more special values that are treated as indifferent (see paragraph 143 bridging pages 8 and 9).

7. Referring to claims 8 and 9, Anderson teaches the mapping data comprises network mapping decisions based on network probes, wherein the network probes comprise ICMP packets (see paragraph 152 on page 9).

8. Referring to claim 10, Anderson teaches a method of extending a sparse data set used for making request routing decisions, comprising:

determining whether routing decisions for a given set of name servers in a given IP address block are sufficiently in agreement (see paragraph 143 bridging pages 8 and 9);

if the routing decisions for the given set of name servers in the given IP address block are sufficiently in agreement, extending the routing decisions for at least one new name server (see paragraph 143 bridging pages 8 and 9); and

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if the routing decisions for the given set of name servers in the given IP address block are not sufficiently in agreement, breaking the block into a largest possible sub-block so that, in each sub-block, the routing decisions for a subset of name servers are sufficiently in agreement (see paragraph 143 bridging pages 8 and 9).

9. Referring to claim 11, Anderson teaches a method of extending an IP address block map, comprising:

for each of a set of one or more blocks:

(a) determining whether given data therein satisfies a given criterion (see paragraph 143 bridging pages 8 and 9);

(b) if the given data satisfies a given criterion, extending a routing decision to all IP addresses in a given portion of the block while discarding data in more specific areas of the given portion (see paragraph 143 bridging pages 8 and 9); and

(c) if the given data does not satisfy the given criterion, dividing the block into at least two sub-blocks (see paragraph 143 bridging pages 8 and 9); and

(d) repeating steps (a)-(c) recursively for each of the sub-blocks (see paragraph 143 bridging pages 8 and 9).

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of TCP/IP Illustrated: The Protocols by W. Richard Stevens (hereinafter "Stevens").

12. Referring to claims 2 and 3, Anderson fails to teach explicitly set forth the limitation that the upper bound blocks comprise CDIR blocks contained in one or more BGP routing tables, with the CDIR blocks being further subdivided according to geographic location, however, Anderson does teach the use of BGP routing tables and subdividing the addresses according to geographic location (see paragraphs 181-184, wherein Anderson teaches using BGP routing tables and paragraph 50, wherein Anderson teaches subdividing addresses according to geographic location).

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Stevens teaches that CIDR "prevents an explosion in the size of Internet routing tables," and allows allocation of multiple IP addresses in such away that allows summarization into a smaller number of routing table entries (see first two paragraphs of page 140).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method of Anderson with the above teachings or Stevens. One of ordinary skill in the art would have been motivated to make such modification in order to minimize the number of routing table entries needed in the routing table and Stevens suggests CIDR is well suited for use with the BGP routing system taught by Anderson (see item 3 in the third paragraph of page 140).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art as it pertains to network mapping and mirror data center redirection:

U.S. Patent No. 6,620,070 to Shah teaches a method for determining a preferred mirrored service by evaluating a BGP; and


U.S. Pub. No. 2003/0105865 to McCanne et al. teaches a proximity based redirection system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A Gaffin can be reached on 571 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS
March 9, 2005


JEFFREY GAFFIN
SUPERVISORY EXAMINER
TECHNOLOGY CENTER 2100